

An Avian Influenza Virus Awareness to Improve Public Health and Increase Life Expectation

Christine Laston Mwenisongole

Arusha Technical College, Tanzania

Abstract: Avian Influenza Virus (AIV) (H5N1) called bird flu has happened to be a disease of a century that infects bids, human and animals. HPAIV consequently spread in Asia, Middle East, Africa and Europe. The world is being attentive on the birds in the environmental transmission of A H5N1. Southern Asia could lead to a new human pandemic form resulting from mutation of the virus or recombination between H5N1 and the human influenza virus. The world first widespread of avian influenza A (H5N1) virus in individuals happened in Hong Kong in 1997. This outbreak highlights the importance of unstoppable observation of H5N1 tension. Governments are mobilizing to address the H5N1. This paper provides informative background on the (H5N1), awareness and provide suitable procedures to inactivate the virus. Recently poultry lives is appearing to increase in the transmission of this disease. This paper attempts to review important consideration on influenza virus.

Key words: avian influenza, public health, virus, life expectation, risk assessment

1. Introduction

Avian Influenza Virus (AIV) also called bird flu has happened to be a disease of a century that infects not only birds but also human and animals. Different sub types first emerged in Scotland in the year 1959 in some few poultry. The globalization of food poultry trade assisted by the freedom of trade throughout the world provides with many trade earnings and benefits but also new risk for disease transmission as for diseases can spread from the point source of production, processing or packaging towards thousand kilometers in a single day [1].

The highly bird avian influenza virus A H5N1 which is a Panzootic can spread and cause a major threat to both human and bird health [2].

Ninety percent of the infected human with H5N1 viruses receives the diseases directly from chickens without the participation of a middle hosts [3].

AIV viruses occur naturally amongst wild aquatic birds all over the world and can transmit the disease to domestic poultry, other birds and even animal species.

Various subtypes of avian which can infect human are swine and zoonotic such as avian influenza, these include H5N1, H7N9 and H9N2. Most viruses like H6N1, H7N2, H7N3, H7N7, H9N2, and H10N7 cause mild respiratory or conjunctivitis symptoms even both cases, in human, though nearly severe cases have stayed conversant [4]. H5N1 viruses are the most common found and can cause human death resulted from pneumonia. Poultry lives seem to increase in the transmission of the diseases caused by these viruses in birds and even in human infections [5].

Among the avian influenza H5N1 was the first avian influenza to affect human and it is the most common form of bird flu. The first occurrence of avian influenza H5N1 occurred in Hong Kong in May in the year 1997 for human from poultry, for the next coming six months no other cases were reported. Eight people died among 18 confirmed infected individuals. Human acquired infections directly from chickens without an

Corresponding author: Christine Laston Mwenisongole, Lecturer. E-mail: christinelaston@gmail.com.

intermediate host to be involved. H5N1 outbreak at the end of December 1997 in Hong Kong experienced the importance of continuous investigations of influenza virus strain in human and in other animal species [3]. In 2007 WHO confirmed about two hundred and fifty (250) reported cases of human infected with H5N1 in ten different countries [6].

In February 2006 Nigeria was reported the first country in Sub-Sahara to be affected by HPAI (H5N1) virus pandemic [7].

1.1 Purpose of Study

The study provides awareness for human and public health authorities at all levels for the important information on how to prevent possible risk caused by H5N1.

1.2 Objective of the Study

The objective of this study is to investigate the risk of AIV and increase life expectance of human being.

2. Material and Method

The researcher reviewed systematically the published literatures and followed the chosen writing matters for logical reviews and Meta-Analyses (PRISMA) protocol. A systematic review protocol describes the rationale, and planned methods of the review which was prepared before a review is started and used as a guide to carry out the review to achieve the objective of this study. Review of various published literatures on Avian Influenza Virus in Bird in East Africa, Sub Sahara Africa Asian and Europe countries. The literature were searched using Mendeley Desktop.

3. Literature Review

3.1 Factors Causing Spread of AIV to Human

In order for virus to infect people and cause disease, they need to attach to cell receptors in the body. Receptors for influenza viruses are normally in the respiratory track. Generally, people get flu through the respiratory system, not from what they eat.

Various studies have been conducted to find out the source of the lethal of H5N1 strain. The type of influenza hemagglutinin (H) gene found in China in 1996 was discovered to be analogous to the H5N1 virus strain found in Hong Kong in the year 1997. However, there are some strains which were found to be different due to lack of amino acid deletion in the strain chain in 2002. Virus subtypes example (H5N3, H7N7) are named based on tests for specific surface proteins, hemagglutinin (H) and neuraminidase (N). Unfortunately, even specific strain designations can cover a whole range of viruses, some of which result in mild illness whereas others have higher morbidity and mortality.

A virus influenza with H5N1 and H7N9 are most found and might result in deadly phenomenon. Recently, in December 2013, Chinese Health officially confirmed a new species a H10N8 virus infection strain, the data for the case was reported clinically which concur with H7N9 virus strain observed in the second wave of AI in eastern China. The case occurred for the 73 years old woman patient who was admitted to hospital with the A H10N8 Avian Influenza Infection who fell sick after she visited poultry market in China Jiangxi [4].

3.2 Transmission of A H5 N1 Species From Human to Human

Circulating H5N1 bird flu strain does not have this capacity to be transmitted from human to another human however, A H5N1 strain could mutate or combine with a human flu virus and create a new form that could spread from person to person. This is a new and unique virus from other flu viruses and retains high virulence, and it has a potential to cause a flu pandemic similar to that seen in the year 1918, 1957, and 1968.

Recently, bird- to human transmission of H5N1 A virus in Asia has been responsible for cases of human respiratory disease and deaths in Asia [5].

3.3 Symptoms of Bird Flu in Poultry and Humans

In the poultry, quietness and extreme misery, suddenly drop in production of eggs, many of which are soft-shelled or shell-less, wattles and combs become swollen and congested also swelling of the skin under the eyes may be seen.

In human symptoms of avian influenza in humans have ranged from typical human influenza, symptoms like fever cough, sore throat, and muscle aches. Also experienced are eye infections, pneumonia, severe respiratory diseases such as acute respiratory distress syndrome and other severe and life-threatening complications

3.4 Resistance of H5N1 to Physical and Chemical Action

The H5N1A virus is inactivated when subjected to a temperature of 56°C for three hours or 60°C for thirty minutes. It is inactivated by oxidizing agents, Sodium dodecyl sulphate, lipid solvents and β -Propiolactone. A virus H5N1 is inactivated by disinfectants formalin and iodine compounds. A H5N1 remains viable for long periods of time in tissues, faces and also in water.

3.5 Food Safety Implications

During highly pathogenic H5N1 avian influenza outbreaks in poultry and in humans conventional cooking at or above 70°C in all parts of food items will inactivate the H5N1 virus. Proper cooked poultry meat is therefore safe to consume. H5N1 A virus, if present in poultry meat is not killed by refrigeration or freezing. In general, low temperatures tends to maintain its viability. Home slaughtering and preparation of sick or dead poultry for food is hazardous, this practice must be stopped [8]. Egg can contain H5|N1 A virus, both on the outside (shell and the inside, whites and yolk). Eggs from areas with H5N1 outbreaks in poultry should not be consumed raw or partially cooked (runny yolk), uncooked eggs should not be used in foods that will not be cooked, baked or heat-treated in other ways.

The greatest risk of exposure to the virus is through the handling and slaughter of live infected poultry. Good hygiene practices are essential during slaughter and post slaughter handling to prevent exposure via raw poultry meat or cross contamination from poultry to other foods, food preparation surfaces or equipment.

4. Results and Discussion

4.1 H5N1 and Food: The Facts

Bird flu in poultry does not pose any food safety risk because it is unlikely a sick chicken would be slaughtered for consumption and thoroughly cooking meat and eggs would kill the virus.

Cooking of poultry (example chicken, ducks, geese, turkeys and guinea-fowl) at or above 70° Celsius throughout the product, so that absolutely no meat remains red, is a safe measure to kill the H5N1 virus in areas with outbreaks in poultry. This is in accordance to a FAO/WHO joint statement. This ensures that there is no active virus remaining if the live bird has been infected and has mistakenly entered the food chain [5, 9].

4.2 Prevention and Control

There is currently no effective treatment of avian influenza. Drugs such as Tamiflu are only used to inhibit the H5N1 Virus from spreading inside the body.

4.3 Sanitary Measures to be Taken

Avoidance of contact between poultry and wild birds, in particular waterfowl. Avoidance of the introduction of birds of unknown disease status into flock. Control of human traffic. Proper cleaning and disinfection procedures. One age group per farm ("all in all out") breeding is recommended.

4.4 In Outbreaks

Slaughtering of all birds. Disposal of carcasses and all animal products. Cleaning and disinfecting. Allow at least 21 days before restocking.

5. Conclusion and Recommendation

To date there is no epidemiological information to suggest that the disease can be transmitted through contaminated food or that products shipped from affected areas have been the source of infection in humans.

It is necessary to protect human health by controlling the diseases as a matter of priority at sources that is, on farms and markets. It is essential to provide national and international support for the improvement of the efficiency of veterinary services for that purpose.

Effective Al prevention and control require actions from local, national, regional and international levels.

The role of wild birds in spread of HPAI H5N1 viruses remains unresolved. Circumstantial evidence suggests limited local infection of resident wild birds, but transfer of H5N1 HPAI virus outside the outbreak zones by migratory birds has not been substantiated.

The African States of governments should resolve and put in dwelling, a humble, active strategy for the stoppage and switch of bird flu. This should be done in cooperation of the Food and Agricultural Organization (FAO), World Health Organization (WHO), and other International Agencies to avoid the impending catastrophic possible of bird flu destroying the African continent. This is the time of action.

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